

Re: JSLS. 2020;24(3);e2020.00032. DOI: 10.4293/JSLS.2020.00032. Laparoscopic Posterior versus Lateral Transversus Abdominis Plane Block in Gynecology

Dear Editors,

We read with much interest the article by Benabou et al. "Laparoscopic Posterior Versus Lateral Transversus Abdominis Plane Block in Gynecology." It found that laparoscopic-assisted transversus abdominis plane (TAP) blocks were a safe and viable regional anesthesia technique for laparoscopic surgeries. Importantly, patients who underwent the posterior TAP block utilized fewer narcotic pain medications. Expanding the armamentarium of multimodal, nonopioid-based analgesia is especially critical to combat the ongoing opioid epidemic.

Notably, the authors in this study relied on visualization of "Doyle's internal-bulge sign" to determine the proper placement of the anesthetic in the TAP plane. Achieving the Doyle's bulge sign has become widely accepted the standard for confirming proper placement of laparoscopic-assisted TAP (LTAP) blocks.^{1, 2} However, this assumes that the presence of a Doyle's sign results in the accurate placement of anesthetic by a semiblind technique into the transversus abdominis plane. We tested this assumption by performing bilateral LTAP blocks in pediatric patients undergoing elective laparoscopic procedures. Surgeons performing the LTAP blocks visualized the downward displacement of the peritoneum and presumed transversus abdominis upon injection of local anesthetic, as described by Doyle. To evaluate placement of the block, we obtained pre- and postblock ultrasound images at the site of the block. These images were then reviewed by two blinded anesthesiologists to determine whether the LTAP block was in the proper plane.

What we found was that out of 48 blocks in 24 patients, LTAP blocks were placed in the TAP plane in only 45.8% (22/48 blocks) of the time, despite consistent visualization of Doyle's bulge. Attending surgeons had an accuracy of 52%. The most commonly "missed" block placement was within the internal oblique muscle (53%), and 7.5% of blocks were "too deep," that is, within the transversus abdominis muscle or in the preperitoneal space. The two blinded reviewers had

a correlation of 87.5% and a Cohen's κ of 0.752, indicating substantial agreement or inter-rater reliability.³

In Benabou's study, as in similar studies to date, the authors did not verify by ultrasound imaging the correct placement of the block. Nonetheless, the study demonstrated that a posterior TAP block method reduced narcotic use postoperatively, suggesting that it provided visceral pain relief. Therefore, whereas using Doyle's sign in LTAP blocks may not necessarily result in radiographically accurate placement, pain relief is still achieved. Consequently, one must wonder about the necessity of placing anesthetic perfectly into the TAP plane to provide adequate pain relief. If approximation of anesthetic TAP placement is sufficient for pain relief, then this may obviate the need for direct observation with ultrasound placement and encourage the increased usage of a safe and less time-consuming LTAP block technique. Conversely, would pain control be further optimized by local anesthetic being placed more consistently into the proper TAP plane? We look forward to seeing future studies evaluating LTAP blocks and comparisons with ultrasound confirmed TAP blocks.

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